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APPLICATION NUMBER: 60/527,946

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RELATED PCT APPLICATION NUMBER: PCT/US04/41715



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**PROVISIONAL APPLICATION FOR PATENT COVER SHEET**

This is a request for filing a PROVISIONAL APPLICATION FOR PATENT under 37 CFR 1.53 (c).

Express Mail Label no: EV413351647 US

INVENTOR(S)		
Given Name (first and middle [if any])	Family Name or Surname	Residence (City and either State or Foreign Country)
Piero Andreas	Madar	Indianapolis, Indiana
Richard Earl	Jones	Plainfield, Indiana
<input type="checkbox"/> Additional inventors are being named on the _____ separately numbered sheets attached hereto		
TITLE OF THE INVENTION (500 characters max)		
METHOD AND APPARATUS FOR RESTRICTING PLAYBACK OF RECORDED DVD CONTENT		
Direct all correspondence to: CORRESPONDENCE ADDRESS		
<input type="checkbox"/> Customer Number _____		
OR		
<input checked="" type="checkbox"/> Firm or Individual Name	JOSEPH S. TRIPOLI, THOMSON LICENSING INC.	
Address	PATENT OPERATIONS	
Address	P. O. BOX 5312	
City	PRINCETON	State NJ ZIP 08543-5312
Country	USA	Telephone 609 - 734-6834 Fax 609 - 734-6888
ENCLOSED APPLICATION PARTS (check all that apply)		
<input checked="" type="checkbox"/> Specification Number of Pages	8	<input type="checkbox"/> CD(s), Number _____
<input checked="" type="checkbox"/> Drawing(s) Number of Sheets	3	<input type="checkbox"/> Other (specify) _____
<input type="checkbox"/> Application Data Sheet. See 37 CFR 1.76		
METHOD OF PAYMENT OF FILING FEES FOR THIS PROVISIONAL APPLICATION FOR PATENT		
<input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27.		FILING FEE AMOUNT (\$)
<input type="checkbox"/> A check or money order is enclosed to cover the filing fees		
<input checked="" type="checkbox"/> The Director is hereby authorized to charge filing fees or credit any overpayment to Deposit Account Number: <u>07-0832</u>		
<input type="checkbox"/> Payment by credit card. Form PTO-2038 is attached.		
The invention was made by an agency of the United States Government or under a contract with an agency of the United States Government.		
<input type="checkbox"/> No.		
<input type="checkbox"/> Yes, the name of the U.S. Government agency and the Government contract number are: _____		

Respectfully submitted,  
 SIGNATURE   
 TYPED or PRINTED NAME Reitseng Lin  
 TELEPHONE 609-734-6813

[Page 1 of 2]

Date

12/8/03

REGISTRATION NO.  
(if appropriate)

42,804

Docket Number:

PU030323

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 This collection of information is required by 37 CFR 1.51. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 8 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop Provisional Application, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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# FEE TRANSMITTAL for FY 2003

Effective 01/01/2003. Patent fees are subject to annual revision.

 Applicant claims small entity status. See 37 CFR 1.27**TOTAL AMOUNT OF PAYMENT**(\$)  
160

Complete if Known	
Application Number	
Filing Date	
First Named Inventor	Piero Andreas Madar
Examiner Name	
Art Unit	
Attorney Docket No.	PU030323

**METHOD OF PAYMENT (check all that apply)**
 Check    Credit card    Money    Other    None  
Order
 Deposit Account:

Deposit Account Number	07-0832
Deposit Account Name	THOMSON LICENSING INC.

## The Director is authorized to: (check all that apply)

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- Charge fee(s) indicated below
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- Charge fee(s) indicated below, except for the filing fee to the above-identified deposit account.

**FEE CALCULATION****1. BASIC FILING FEE**

Large Entity	Small Entity	Fee Description	Fee Paid
Fee Code (\$)	Fee Code (\$)		
1001 770	2001 385	Utility filing fee	
1002 340	2002 170	Design filing fee	
1003 530	2003 265	Plant filing fee	
1004 770	2004 385	Reissue filing fee	
1005 160	2005 80	Provisional filing fee	160
<b>SUBTOTAL (1)</b>			(\$) 160

**2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE**

Total Claims	Extra Claims	Fee from below	Fee Paid
	- ** = 0	X [ ]	= 0
Independent Claims	- ** = 0	X [ ]	= 0
Multiple Dependent		X [ ]	= 0

**Large Entity**

Large Entity	Small Entity	Fee Description
Fee Code (\$)	Fee Code (\$)	
1202 18	2202 9	Claims in excess of 20
1201 86	2201 43	Independent claims in excess of 3
1203 290	2203 145	Multiple dependent claim, if not paid ** Reissue independent claims over original patent
1204 86	2204 43	** Reissue claims in excess of 20 and over original patent
1205 18	2205 9	
<b>SUBTOTAL (2)</b>		(\$) 0

\*\* or number previously paid, if greater; For Reissues, see above

**FEE CALCULATION (continued)****3. ADDITIONAL FEES**

Large Entity	Small Entity	Fee Description	Fee Paid
Fee Code (\$)	Fee Code (\$)		
1051 130	2051 65	Surcharge - late filing fee or oath	
1052 50	2052 25	Surcharge - late provisional filing fee or cover sheet	
1053 130	1053 130	Non-English specification	
1812 2,520	1812 2,520	For filing a request for reexamination	
1804 920*	1804 920*	Requesting publication of SIR prior to Examiner action	
1805 1,840*	1805 1,840*	Requesting publication of SIR after Examiner action	
1251 110	2251 55	Extension for reply within first month	
1252 420	2252 210	Extension for reply within second month	
1253 950	2253 475	Extension for reply within third month	
1254 1,480	2254 740	Extension for reply within fourth month	
1255 2,010	2255 1,005	Extension for reply within fifth month	
1401 330	2401 165	Notice of Appeal	
1402 330	2402 165	Filing a brief in support of an appeal	
1403 290	2403 145	Request for oral hearing	
1451 1,510	1451 1,510	Petition to institute a public use proceeding	
1452 110	2452 55	Petition to revive – unavoidable	
1453 1,330	2453 665	Petition to revive – unintentional	
1501 1,330	2501 665	Utility issue fee (or reissue)	
1502 480	2502 240	Design issue fee	
1503 640	2503 320	Plant issue fee	
1460 130	1460 130	Petitions to the Commissioner	
1807 50	1807 50	Processing fee under 37 CFR 1.17 (q)	
1806 180	1806 180	Submission of Information Disclosure Stmt	
8021 40	8021 40	Recording each patent assignment per property (times number of properties)	
1809 770	2809 385	Filing a submission after final rejection (37 CFR § 1.129(a))	
1810 770	2810 385	For each additional invention to be examined (37 CFR § 1.129(b))	
1801 770	2801 385	Request for Continued Examination (RCE)	
1802 900	1802 900	Request for expedited examination of a design application	
Other fee (specify) _____			

\*Reduced by Basic Filing Fee Paid

**SUBTOTAL (3)**(\$)  
0**SUBMITTED BY**

Name (Print/Type)	Reitseng Lin	Registration No. (Attorney/Agent)	42,804	Telephone	609-734-6813
Signature				Date	December 8, 2003

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METHOD AND APPARATUS FOR RESTRICTING PLAYBACK OF  
RECORDED DVD CONTENT

5

Technical Field of Invention

This invention relates to the field of video recording apparatus, and, more particularly, to a DVD recorder that allows a user to enter a security code, so that the recorded content can be played back only if the correct security code is entered.

10

Background Art

There are currently two re-writeable DVD standards: DVD+RW and DVD-RW. The DVD+RW standard does not provide a method to restrict access to recordings. In fact, the current DVD+RW standard does not even provide parental management, which allows distributors to release multiple ratings versions of a movie on a single DVD disc and allows parents to lock a movie rating into their DVD player with a password, so that it will not play objectionable pieces. The DVD-RW standard, although includes parental management, does not provide a method allowing users to attach a security code to a recording made on their own DVD recorder.

15

Disclosure of Invention

According to the principles of the invention, a video recorder allows a user to enter a security code in a recording to restrict a playback of the recording. For a DVD recorder, the security code is stored in a user field included in presentation control information of the DVD.

20

The DVD recorder may display a setup menu immediately after a recording is completed or when a recorded DVD has been inserted into the

DVD recorder for the user to enter the security code. If the recording includes more than one title, the recorder may allow the user to enter a security code for each title.

Brief Description of Drawings

5 FIG. 1 is an illustrative video recorder according to the principles of the invention for allowing a user to enter a security code in a recording.

FIG. 2 is an example of the presentation sequence of a video player when playing back a recording made according to the principles of the invention.

10 FIG. 3 illustrates a process performed by the DVD recorder according to the principles of the invention for allowing a user to enter a security code in a recording.

Detailed Description

FIG. 1 illustrates a video recorder, such as a DVD recorder, according to the principles of the invention, for building a menu using a stored image as a background of the menu in the recorded video/audio. The video recorder includes a controller, a MPEG encoder, a MPEG decoder, and a disc drive. The recorder also includes a baseband A/V input for receiving baseband video signals. Optionally, the recorder may also receive broadcast video signals from a tuner.

The controller receives the input video signals either from the baseband A/V input or the tuner, depending on the position of a switch. The controller processes the input video signals, and generates output video signals representing the input video signals. The output video signals are recorded into a first memory device, illustratively, a DVD-R, DVD-RW or

DVD+RW. Other memory device such as VCD, and nonvolatile memory such as a hard disk and SRAM can be used as well.

The disc drive, under the control of the controller or a separate processor (not shown) under the control of the controller, serves as a recording interface to the first memory device.

Although illustrated as receiving analog signals, the recorder may receive MPEG input signals as well, if the recorder includes a MPEG decoder and a NTSC/PAL encoder to convert the MPEG signals into NTSC/PAL signals. Both the MPEG decoder and the NTSC/PAL encoder are not shown.

When a recording is completed or a recorded disc is inserted into the video recorder, the controller displays a setup menu requesting a user to enter a security code, such as a password, for the recording. In DVD applications, this security code is saved to a user data field of a file in the recording, for example, the reserved field in the RECI (recording information) file as part of the presentation control information described, for example, in DVD Specifications for Rewriteable Disc, and the VRMI\_RECI\_UD field of the VRMI\_RECI (recording information) file as described in DVD+RW Video Format Specifications. The controller also modifies the Video Manager (VMGM) menu to include a password menu, and modifies the Program Chain Information Table (PGCIT) of the VMGM, so that when the recorded DVD is played back, the DVD player will display the password menu requesting the user to enter a security code. If the security code does not match the security code saved for the recording, the DVD player will not play the contents of the recording.

As described in the DVD player specification (DVD specifications for Read-only Disc, Part 3 Video, Version 1.13), a PGC (program chain) prescribes the presentation sequence of an audio/video block. A recording is normally contained within a single PGC, although multiple PGCs, each for a 5 title, are allowed as well. Since the method according to the principles of the invention conforms to the DVD player standard as well, all DVD-compliant players on the market should honor this restriction method.

For information purposes, the presentation sequence in a DVD player is briefly described below. The presentation of a PGC in a DVD player occurs 10 in three basic stages: execution of PRE commands, playback of audio/video, and execution of POST commands. "Commands" are a set of internal DVD instructions that the player must perform. For examples, the set of PRE commands may include instructions such as selecting correct audio language or subpicture tracks and jumping to a menu or title on the disc, and the set of 15 POST commands may include jumping to another title or menu.

According to the principles of the invention, the set of available set of commands within the DVD player can be authored on a recorded disc in such a way as to allow or prohibit the playback of any PGC (recording), based only on key input from the user. The method inserts additional PRE commands 20 into the normal presentation sequence discussed above. These PRE commands causes playback to be diverted to a password challenging menu screen, where the user is asked to key in a security code, such as a sequence of alphanumerical characters. If the security code matches the stored security code that was authored on the disc, then playback proceeds normally. An 25 example of the new presentation sequence is shown in FIG. 2.

FIG. 3 illustrates a process performed by a DVD recorder according to the principles of the invention for allowing a user to enter a security code, such as a password, in a recording. After a user has inserted a recorded DVD disk to the DVD recorder made according to the principles of the invention, the user chooses a single recording. In response, the recorder displays the message "Set or Change Password." This message preferably is accomplished by two interface buttons, one for allowing the user not to set or change the password, and the other allows the user to set/change the password. The user may choose not to set a password or not to change the existing password. However, if the user chooses to set/change password but no password was set, the recorder asks the user to key in a password and saves the password in the user data field of a file existed in the recording, for example, the VRMI\_REC1\_UD field of the VRMI\_REC1 file in the DVD+RW standard. On the other hand, if a password was already entered, the recorder asks the user to enter the old password and the new password. If the old password matches the stored password, the stored password is replaced by the new password.

After the new password has been saved, the recorder, in particular the controller in the recorder, creates a password menu screen set in VMGM video objects (VOBs). In addition, the recorder also creates password menu processing commands, so that a DVD player will execute those commands to compare the entered password with the stored password and allows the playback of the recording if the entered password matches the stored password.

The recorder then adds two PRE commands in the PGC of the title, so that a playback is redirected to password menu in the VMGM domain. One of the PRE commands is to set a register, for example, for setting subpicture settings, and the other is to jump to the password menu VOB, for example, by

5 calling the CallSS command in the DVD standards. Note that if the entered password matches the stored password, the last password menu processing command executed should return the execution to the next step of the original presentation sequence. An example of this command is the RSM (resume) command in the standards. Of course, if the entered password does not

10 match the stored password, the last password menu processing command should terminate the playback, such as calling the EXIT command described in the standards.

The actual insertion of the additional PRE commands can be accomplished either when the recording is closed (stopped), or at anytime

15 thereafter. If a disc is already recorded, the recorder will display the "Set or Change Password" message immediately after the disc is inserted into the recorder.

Although illustrated as setting a password for a title, if there is a plurality of title, the recorder may allow user to enter a different password for

20 each title. Furthermore, although illustrated as a DVD recorder, the principles of the invention can be applied to any video recorder that can insert a security code and change the presentation sequence in a recording and a corresponding video player is able to execute the changed presentation sequence, accept a security code from a user, and check the entered security

25 code against the stored security code before playing the recording content.

While this invention has been described with regard to a few presently preferred embodiments, those skilled in this art will readily appreciate that many alternative modes and embodiments can be carried out without departing from the spirit and scope of this invention.

## CLAIMS

What is claimed is:

1. A video recorder comprising:
  - 5 a controller for processing input video signals to generate output video signals; and
    - a memory interface for recording the output video signals to a first memory device, wherein the controller inserts a security code to the recording restricting a playback of
  - 10 the recording in response to a user entering the security code.
2. The video recorder of claim 1, wherein the memory device is a DVD.
3. The video recorder of claim 2, wherein the controller stores the security code in a user field included in presentation control information of the DVD.
4. The video recorder of claim 3, further comprising an on-screen display processor, under control of the controller, for displaying a setup menu including input for the entered security code.
- 15 5. The video recorder of claim 4, wherein the on-screen display processor displays the setup menu when a DVD with the recording is inserted to the recorder.
- 20 6. The video recorder of claim 4, wherein the setup menu includes an input for each title for the user to enter a security code.

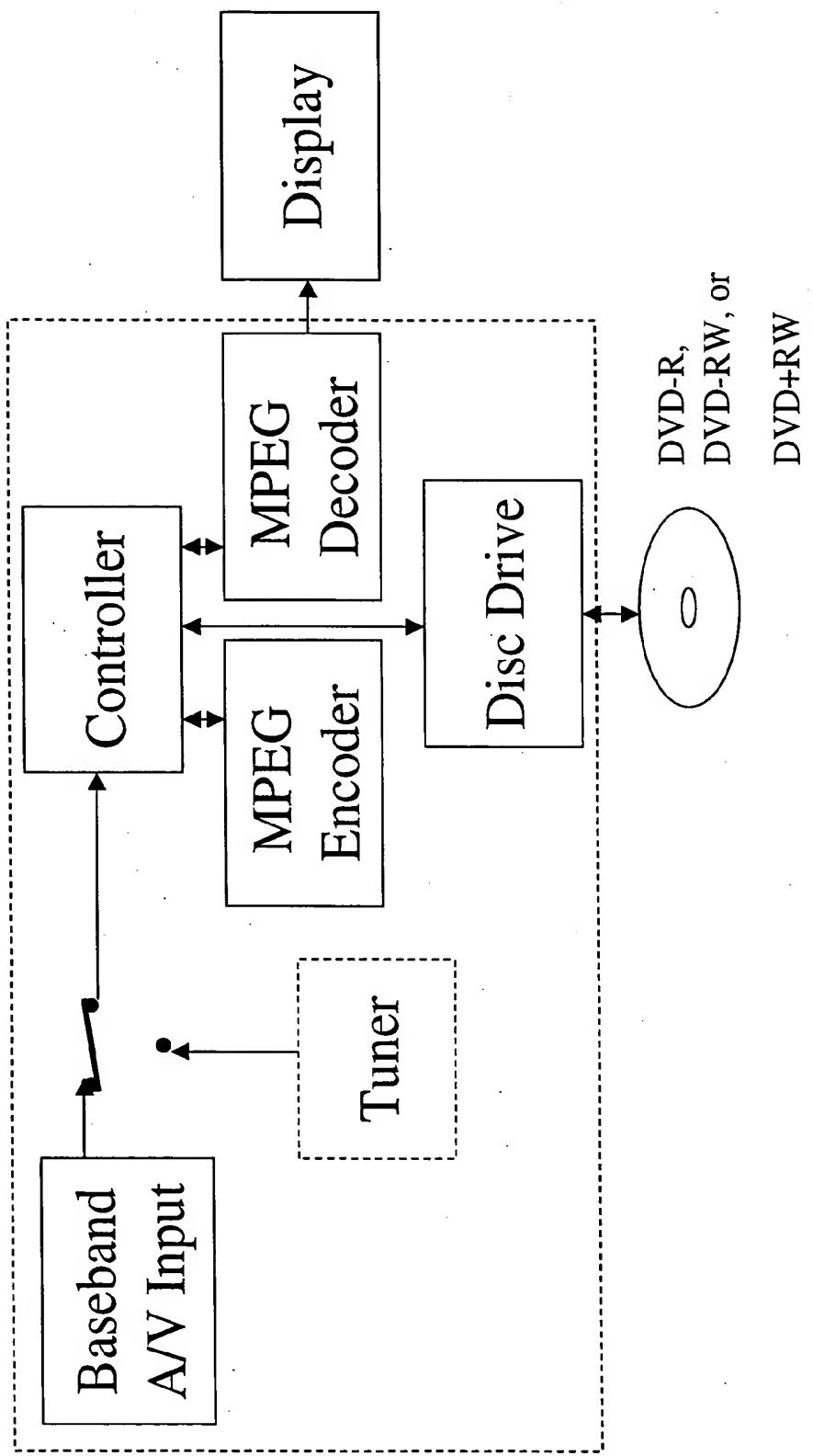


FIG. 1

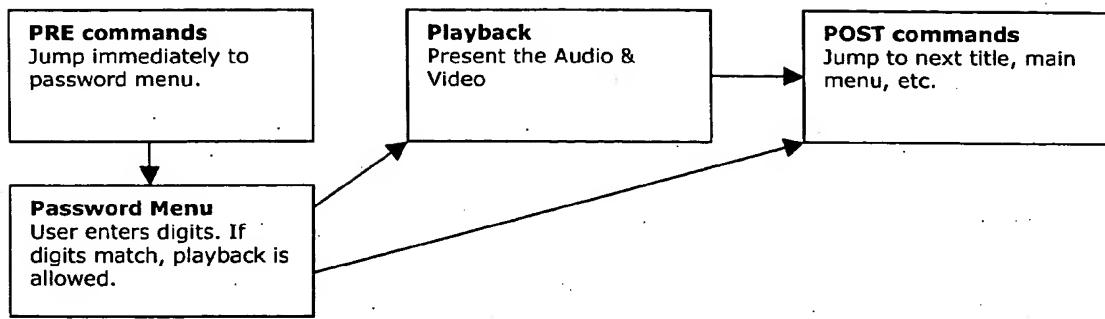


FIG. 2

**FIG. 3**

